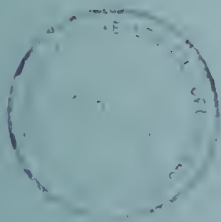


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Crawley Urban District Council



ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE YEAR

1968

THIRTEENTH

ANNUAL REPORT

OF THE PUBLIC HEALTH DEPARTMENT

of

CRAWLEY URBAN DISTRICT

of

WEST SUSSEX

1968

K.N. Mawson, M.B., Ch.B., D.P.H., F.R.S.H.

Medical Officer of Health

T. Steel, M.A.P.H.I., M.R.S.H.

Chief Public Health Inspector

Health Department,
Town Hall,
The Boulevard,
CRAWLEY.

(Telephone: Crawley 28744)

Members of the Housing Planning and Health
Committee 1968/69

Mr. A.E. Crane (Chairman)
Mrs. B.M.E. Anderson (Vice-Chairman)
Mr. H.J. Champion
Mrs. E.V. Fowler
Mr. A.W. Gardner
Mr. R.J. Huston
Mr. V.L. Lelew
Mrs. N.B.M. Sharp
Mr. G.E. Waller
Mr. E.H. Wignall

(The Chairman and Vice-Chairman of the
Council are ex-officio members of this
Committee)

CRAWLEY URBAN DISTRICT COUNCIL

July, 1969.

Health Department,
Town Hall,
The Boulevard,
CRAWLEY.

To the: Chairman and Members of the
Crawley Urban District Council

Ladies and Gentlemen,

I beg to submit to you the Annual Report of the Health Department for 1968, in which an account is given of the work carried out during the year. This is the thirteenth such Report to be circulated since the Urban District was formed in April, 1956, and has been prepared in accordance with the requirements of Circular No. 1/1969 of the Department of Health and Social Security.

Vital Statistics

Extracts from the Vital Statistics for 1968 will be found on page 6. The Registrar-General's estimate of population for mid-1968 rose by 1,110 to 63,310. Details of births and deaths are still passed to the Manager of the Commission for the New Towns, Crawley Executive and I am told that the estimated population at the end of the year was 67,000. The total births during 1968 were 952, a fall of 42 from the previous year, and so the Crude Birth Rate has dropped to 14.49. Of the total births, 63 were illegitimate. The Crude Death Rate rose slightly, though remaining at the low figure of 6.14.

A detailed table of causes of death appears on page 7 and it will be noted that these are listed in the new form in compliance with the International Classification of Diseases 1965, which calls for a greater breakdown into categories. Although only 36 causes are shown, the classification is now made under 65 headings, those with no deaths allocated being omitted from the table. Motor vehicle accidents accounted for 6 deaths, compared with 9 in the previous year, but there were no deaths attributable to other accidents (5 in 1967).

Malignant disease shows a slow but steady overall increase, with 94 deaths - but of these 31 were due to cancer of the lung or bronchus (23 male and 8 female), the highest figure ever recorded in Crawley. In contrast to this steadily rising percentage, cancer of the uterus caused but 3 deaths - less than a tenth of that virtually preventable disease "smoker's cancer".

During the last 4-5 years, considerable emotional heat has been generated among the public by well-meaning ladies who formed themselves into pressure groups to demand the setting-up of a national cervical smear campaign. While it is always encouraging to see

public interest aroused in the prevention of avoidable disease, the situation should be viewed in proper perspective. Cancer of the cervix is not a common disease and is decreasing steadily each year. Cancer of the bronchus is only too common and increases inexorably. And yet one sees ladies who, themselves keen supporters of the cervical smear campaign, are regular smokers of cigarettes! If a reliable system of self-palpation of the breast could be devised, and if people would cease the smoking of cigarettes, infinitely more lives could be saved than could ever be hoped for from the most elaborate system of cervical smears. And who can doubt that there would also be a fall in the mortality from Ischaemic Heart Disease, which last year accounted for a total of 81 deaths in Crawley - 50 male and 31 female: 33 of these being from among the working population?

Notifiable Disease

As this was not a "Measles Year" only 40 cases were notified. However the usual biennial rise would have been expected to commence in the early winter and the fact that this has not been so can only be attributed to the vaccination of susceptibles, which first started in England and Wales in June 1968. It had been estimated that there were approximately 3,800,000 under 15's who had not suffered from the disease; although the total so far protected does not approach this figure, there can be no doubt that the campaign has made its impact felt, by the very considerable reduction so far achieved. As in epidemic years the total number notified may exceed three-quarters of a million, with about a quarter of a million in the "between" years, the benefit to a hard-pressed Health Service of the eradication of Measles would be immense.

No cases of Dysentery were notified, although the prevalence of Sonne dysentery has been high over the country generally during the last two years.

On the 13th June all Medical Officers of Health received a circular from the C.M.O. to the Ministry, dated the 5th June, stating that Infective Jaundice would be generally notifiable from the 15th June - (The Public Health (Infective Jaundice) Regulations, 1968). We were requested to send copies of these Regulations to all general practitioners. Although these were ordered on the same day, it was not until the 24th June that they were received from the Stationery Office. For many years the public health service has been urging that Infective Jaundice should be included in the list of diseases officially notifiable. There is no doubt that in many countries the incidence is rising, and epidemics lasting several years have occurred in the U.S.A., the United Kingdom, and in Australia. It is an enteric infection, associated with viraemia, which carries a definite, if small, mortality, particularly in the aged. In the case of children, infection may not be accompanied by definite jaundice

and, the diagnosis not having been made, spread of jaundice can very easily occur. There is no doubt that the disease is an indicator of unsatisfactory community hygiene.

Immediately following these Regulations, two notifications were received, one of which was a classical case of infective hepatitis in an elderly man. The second, however, occurred in a lad of 16 years and on investigation it had been found that he had been administering to himself "Methedrine" by injection. He was clearly a case of "serum hepatitis", infection having been contracted by the "sharing" of a syringe.

Food Poisoning

Only two cases were the subject of formal notification, one being a middle-aged woman employed as a flight kitchen worker at Gatwick Airport, who became infected with *Salmonella* reading. All necessary precautions were taken in conjunction with the Public Health Department of the Dorking and Horley Rural District.

The second was an infant admitted to hospital for investigation and found to be carrying *Salmonella typhi-murium*. It was not possible to trace the source of infection, but all other members of the family were negative on bacteriological examination.

In addition to the above, two family outbreaks of *Salmonella typhi-murium* infection, involving 6 cases, together with two sporadic cases of the same infection, were reported to the Department for investigation; also two family outbreaks involving 8 persons, plus two sporadic cases were due to infection by *Salmonella blockley* and *Salmonella brandenberg*. Five sporadic cases of infection due to *Salmonella typhi-murium* came to light, but each was of a different phage type. Several of these people had contracted their infection while abroad on holiday.

The Public Health (Infectious Diseases) Regulations 1968

The above Regulations came into operation on the 1st October, 1968. The infectious diseases which are to be notified to the District M.O.H. under them are as follows:-

Acute encephalitis	Ophthalmia neonatorum
Acute meningitis	Paratyphoid fever
Acute poliomyelitis	Plague
Anthrax	Relapsing fever
Cholera	Scarlet fever
Diphtheria	Smallpox
Dysentery	* <u>Tetanus</u>
(amoebic or bacillary)	Tuberculosis
Infective jaundice	Typhoid fever
Leprosy	Typhus
* <u>Leptospirosis</u>	Whooping cough
Malaria	* <u>Yellow fever</u>
Measles	

(The three diseases marked had not previously been notifiable in Great Britain).

Some six diseases which were previously notifiable are no longer included, these being:-

Acute influenzal pneumonia	Erysipelas
Acute primary pneumonia	Membranous croup
Acute rheumatism	Puerperal pyrexia

In addition to the above, practitioners are required to notify any cases of food poisoning of which they become aware or suspect. This requirement is included in Regulations made under the Food & Drugs Act 1955.

International Certificates of Vaccination

During the year the total number of International Certificates stamped in the Department remained at a relatively low figure, namely 1,347.

Care of the Aged

I am glad to say that it was again unnecessary to take action during the year under Section 47 of the National Assistance Act, 1948. This is the section which deals with the compulsory removal from their homes of elderly and infirm persons living in insanitary conditions.

I would again like to express my thanks to Mr. Steel, the Chief Public Health Inspector, and to his staff for their co-operation during the year and for their help in the compilation of this report.

I am, Ladies and Gentlemen,

Your obedient Servant,



Medical Officer of Health

Staff of the Public Health Department

Kenneth N. Mawson, M.B., Ch.B., D.P.H., F.R.S.H.
Medical Officer of Health; also M.O.H. to N.E.
Combined Sanitary District of West Sussex and
Departmental Medical Officer to the West Sussex
County Council.

T. Steel, M.A.P.H.I., M.R.S.H., Chief Public Health
Inspector

Certificate of the Royal Sanitary Institute and
Sanitary Inspectors Joint Board.
Certificate of the Royal Sanitary Institute for
Inspectors of Meat and Other Foods.

D.E. Smith, M.R.S.A.S., M.A.P.H.I., Deputy Chief
Public Health Inspector (from 1st July, 1968)

Certificate of the Royal Sanitary Association of
Scotland.
Certificate of the Royal Sanitary Association of
Scotland for Inspectors of Meat and Other Foods.
Testamur of the Institute of Public Cleansing.

L.P. Poole, M.A.P.H.I., M.R.S.H., Senior District
Inspector

Certificate of the Royal Sanitary Institute and
Sanitary Inspectors Joint Board.
Certificate of the Royal Sanitary Institute for
Inspectors of Meat and Other Foods.

A.F. Screeton, M.A.P.H.I., District Public Health
Inspector

Diploma of the Public Health Inspectors Education
Board.

J.M. Coultous, M.A.P.H.I., District Public Health
Inspector (from 1st July, 1968)

Diploma of the Public Health Inspectors Education
Board.

Trainee Public Health Inspector - W.J. Heron
Chief Clerk/Technical Assistant - A. Moss
Clerk/Typist - Miss G. Weston
Secretary to M.O.H. - Miss M. Heydon

CRAWLEY URBAN DISTRICT COUNCILStatistics & Social Conditions of the Area 1968

Area (Acres)	...	...	...	...	5,622
Estimated resident population, mid-1968	...	...	...	...	63,310
Approximate No. of Domestic Hereditaments as at 31st December, 1968	...	...	...	...	18,700
Rateable Value (31st December, 1968)	...	...	...	...	£4,026,404
Sum represented by a Penny Rate (1968/69)	...	...	...	...	£16,240

EXTRACTS FROM VITAL STATISTICS OF THE YEAR

	Total	M.	F.	
Live Births (Legitimate)	889	445	444	) Birth Rate = 15.04 per 1,000 estimated resident population in mid-1968.
(Illegitimate)	63	39	24	
Illegitimate Live Births = 6.62%				
Still Births (Legitimate)	14	5	9	) Rate per 1,000 total births = 14.49
(Illegitimate)	0	0	0	
Deaths	389	198	191	Crude Death Rate = 6.14
England & Wales Birth Rate = 16.9				Death Rate = 11.9
Birth Rate corrected by Comparability Factor = 11.87				
Death Rate corrected by Comparability Factor = 11.4				
West Sussex Urban Districts Birth Rate = 15.2				Death Rate = 10.6

During the year, 5 male and 8 female infants died before a year.
All but one were legitimate infants.

Death Rate of Infants under 1 year of age:-

All Infants per 1,000 Live Births	13.66
Legitimate Infants per 1,000 Legitimate Live Births	13.50
Illegitimate Infants per 1,000 Illegitimate Live Births	15.87
(Infant Mortality Rate for England and Wales	18.0)
Of the above 13 infant deaths, eight (4 male and 4 female) occurred in the first month.	
Neonatal I.M.R.	8.4
Early Neonatal Mortality Rate	8.4
Perinatal Mortality Rate	22.77

CAUSES OF DEATH IN THE CRAWLEY URBAN DISTRICT

	<u>Males</u>	<u>Females</u>
1. Enteritis and other diarrhoeal diseases	0	1
2. Other infective and parasitic diseases	0	1
3. Malignant neoplasm - stomach	8	3
4. Malignant neoplasm - lung, bronchus	23	8
5. Malignant neoplasm - breast	1	8
6. Malignant neoplasm - uterus	-	3
7. Leukaemia	2	1
8. Other malignant neoplasms, etc.	20	17
9. Diabetes mellitus	2	-
10. Other endocrine etc. diseases	0	2
11. Anaemias	0	1
12. Other diseases of nervous system, etc.	3	4
13. Chronic rheumatic heart disease	1	5
14. Hypertensive disease	5	4
15. Ischaemic heart disease	50	31
16. Other forms of heart disease	7	11
17. Cerebrovascular disease	20	35
18. Other diseases of circulatory system	7	2
19. Influenza	1	2
20. Pneumonia	17	21
21. Bronchitis and emphysema	8	7
22. Asthma	0	2
23. Other diseases of respiratory system	0	2
24. Peptic ulcer	1	2
25. Intestinal obstruction and hernia	0	1
26. Other diseases of digestive system	4	2
27. Nephritis and Nephrosis	1	0
28. Hyperplasia of prostate	1	-
29. Other diseases, genito-urinary system	2	2
30. Diseases of musculo-skeletal system	1	1
31. Congenital anomalies	2	4
32. Birth injury, difficult labour, etc.	3	2
33. Other causes of perinatal mortality	1	1
34. Symptoms and ill-defined conditions	2	0
35. Motor vehicle accidents	3	3
36. Suicide and self-inflicted injuries	2	2
<u>TOTAL ALL CAUSES</u>	<u>198</u>	<u>191</u>

TABLE SHOWING VITAL STATISTICS - 1957-1968

Year	Est. Popu- lation	NO. OF BIRTHS						Birth Rate	Total No. of Deaths	Death Rate	Infant Death Rate	Natural Increase of Births over Deaths
		Legitimate			Illegitimate							
		M.	F.	Total	M.	F.	Total					
1957	39,040	534	517	1,051	9	14	23	27.5	172	4.4	15.8	902
1958	46,970	598	609	1,207	10	17	27	26.25	261	5.5	13.77	973
1959	50,710	644	619	1,263	11	11	22	25.34	255	5.03	16.34	1,030
1960	52,150	655	579	1,234	5	9	14	23.93	267	5.12	20.03	981
1961	53,860	644	599	1,243	15	19	34	23.71	285	5.3	18.80	992
1962	55,360	583	595	1,178	19	11	30	21.82	298	5.38	15.73	910
1963	56,790	627	603	1,230	17	21	38	22.32	345	6.07	18.93	923
1964	59,000	588	594	1,182	24	26	50	20.88	301	5.10	15.42	931
1965	60,290	569	516	1,085	21	27	48	18.79	313	5.19	9.71	820
1966	61,290	514	508	1,022	31	29	60	17.65	355	5.79	12.94	727
1967	62,200	459	463	922	37	35	72	15.98	336	5.4	12.07	658
1968	63,310	445	444	889	39	24	63	15.03	389	6.1	13.66	563

Birth and Death Rates shown in above table have not been corrected
by "Comparability Factor".

SOCIAL CONDITIONS

Situated between the Forest Ridge and the Weald in pleasant country, Crawley was for long a market town and shopping centre for the surrounding rural districts. Its recorded history dates back to Norman times. In the middle of the eighteenth century the London to Brighton Road, passing through the town, was one of the most frequented highways in Britain and the George Inn became a famous coaching house.

In 1947 it was decided that Crawley, with the surrounding area, should be expanded into one of the eight New Towns which it was planned to build in a ring approximately 25-30 miles from the centre of London. Crawley can claim the distinction of being the first of these to reach the stage of completion. Whereas the designated area of the town housed only 9,500 people in 1947, the present population is over 67,000. Thus many people, mainly from the metropolis, have moved to new surroundings where they enjoy a high standard of living and have established a settled community. Covering 6,000 acres, the town is approximately 3½ miles across and is surrounded by a green belt with ready access to the countryside. The Crawley Development Corporation was responsible for the planning and building of the town, including the majority of houses, most shops and some factories, but the administration of the area is in the hands of the local authorities - the West Sussex County Council and the Crawley Urban District Council.

The town was planned to have nine residential areas, with populations varying from 4,600 to 8,250, a Town Centre and an Industrial Area, the last being situated to the north of the town on the London side, adjoining the main road and railway. Each residential area is largely self-contained, having a Primary School, shops which provide for daily needs, a Church and a Public House. This arrangement cuts to a minimum the distance which children are obliged to walk to school in their early years. A tenth Neighbourhood is now in course of development, 1,761 dwellings being already in occupation. As Education Authority the West Sussex County Council has provided Primary and Secondary Schools, and a flourishing College of Further Education serves a wide area.

The first permanent Community Centre was built adjoining West Green Primary School, but since 1963 Community and Youth Centres have been provided in all developed Neighbourhoods.

The number of occupied dwellings which were erected by the Crawley Development Corporation and the New Towns Commission (Crawley Executive) totalled 11,941, including both houses and flats, at the end of the year.

There is a wide variation in the size and type of accommodation provided, with over 281 types of dwelling, and the average density is about 10-13 to the acre. At the end of 1968 the Crawley Urban District Council had 1,833 properties in occupation (an increase of 264 during the year).

The vast majority of the residents work in Crawley, either in factories or in the town's services. Eighty-seven factories are at present in production. Unemployment remains at a very low level. The total number at work in the town at the close of the year was 40,803.

The policy adopted by the Crawley Development Corporation was to provide a limited number of shops in the Neighbourhood Centres, 136 in all, a larger number being in the more distant areas. The Town Centre has become a shopping area of regional importance, having over 150 new shops trading. This figure includes department stores, banks, gas and electricity showrooms, etc.

NOTIFIABLE DISEASES

The following cases were notified during 1968. The figures in brackets indicate the number of cases notified the previous year.

Scarlet Fever	4	(2)
Whooping Cough	1	(11)
Measles	40	(1,570)
Food Poisoning	2	(1)
Puerperal Pyrexia.....	18	(17)
Dysentery,.....	0	(3)
Acute Meningitis.....	1	(-)
Paratyphoid.....	1	(0)
Infective Jaundice	3	(-)

TUBERCULOSIS

Number of cases added to the register during the year - 9
(12 in 1967)

(Of this number, 6 were new cases, the remainder being "transfers" when the patient moved to Crawley).

Pulmonary Males	6	Non-Pulmonary Males	0
Pulmonary Females	1	Non-Pulmonary Females	2

Total number on register - 89

VACCINATION AND IMMUNISATION

I am indebted to Dr. T. McL. Galloway, the County Medical Officer of Health, for the following tables:-

Statistics for year ended 31st December, 1968

Type of vaccine	1968	1967	1966	1965	1961-4	Others under age 16	Total
<u>TRIPLE ANTIGEN</u>							
Primary	488	434	14	4	2	1	943
Booster	-	460	539	27	-	-	1,026
<u>DIPHTHERIA/ TETANUS</u>							
Primary	5	5	-	2	13	2	27
Booster	-	2	9	4	1,831	391	2,237
<u>TETANUS</u>							
Primary	-	-	-	-	-	-	-
Booster	-	-	-	-	-	2	2
<u>POLIOMYELITIS</u>							
Primary	493	453	21	7	44	24	1,042
Booster	-	459	542	32	1,279	175	2,487
<u>MEASLES</u>	2	222	580	552	1,068	3	2,427

SMALLPOX VACCINATIONPERSONS AGED UNDER 16

Age at date of Vaccination	Number of Persons Vaccinated or Re-Vaccinated During Period	
	Number Vaccinated	Number Re-Vaccinated
0-3 months	3	
3-6 months	2	
6-9 months	3	
9-12 months	6	
1 year	954	1
2-4 years	72	17
5-15 years	20	924
TOTAL	1,060	942

SANITARY CIRCUMSTANCES OF THE AREA

by the Chief Public Health Inspector, Mr. T. Steel

The work of the department was somewhat interrupted in mid-year by reason of the resignations of my Deputy, Mr. Faulkner, and one of the Senior District Inspectors, Mr. Townsend. Both secured well-deserved advancement, Mr. Faulkner being appointed as Chief Inspector to Dorking Urban District and Mr. Townsend as Deputy Chief Inspector at Harlow.

I would like to record my appreciation of their valuable services in the past, as well as of the continuing service and loyalty of the rest of the staff. Mr. Poole was redesignated as Senior District Inspector and Mr. Screeton as District Inspector.

The two new Inspectors, Mr. Smith (Deputy) and Mr. Coultous (District Inspector) settled in quickly and amicably and the department was soon on an even keel again.

Smoke control work in Northgate took up a considerable proportion of time at some expense to routine inspections of food premises, but, as the smoke control programme is now nearing its end, this is a situation which can be corrected in the future.

TOTAL NUMBER OF INSPECTIONS FOR ALL PURPOSES 5231

WATER SUPPLY

The results of routine chemical and bacteriological examinations indicated the maintenance of satisfactory standards.

Twenty-six samples were submitted for bacteriological examination and five for chemical analysis. All were satisfactory.

Four complaints were received regarding discoloured water following disturbance of deposit in the mains.

No. of dwellinghouses supplied with mains water direct to the houses	Estimated population
19,255	67,000

New houses connected to main supply	1155
Number of houses with private supply	2
Bacteriological samples taken from private supplies.....	-

SWIMMING POOLSPublic

The quality of the water in the Council's pool remained satisfactory throughout the year, as was confirmed by routine chemical and bacteriological examinations of samples.

Private

There are eleven private pools, ten being at schools and one at a factory on the industrial estate. Periodic checks by chloroscope gave satisfactory results, as did all of the fourteen samples taken for bacteriological examination.

PUBLIC HEALTH ACT, 1936

Number of notices served under the Public Health Act:-

Formal	-
Informal	10
Number of notices complied with:-	
Formal	-
Informal	4

COMPLAINTS (re. Public Health and Housing matters)

Number of complaints received.....	92
Inspections	92
Re-inspections	123

MOVEABLE DWELLINGSPublic Health Act, 1936Caravan Sites & Control of Development Act, 1960

Inspections	11
Number of notices served	-
Number of moveable dwellings previously licensed under Public Health Act ...	-
Number of site licences issued under Caravan Sites & Control of Development Act	-

COMMUNICABLE DISEASES

Total number of visits	208
Rooms disinfected	3
Number of personal specimens	472

INSECT PESTS

Number of visits in connection with Fleas, ants, etc.	102
---	-----

These visits were almost entirely for the purpose of advising residents on the eradication of animal fleas and of ants.

Wasps

The Department continued to give advice on the destruction of nests, and considerable use was made of the service offering spraying equipment and insecticide at a small charge.

Occupiers who do not wish to undertake the treatment themselves are referred to a private operator.

DRAINAGE AND SEWERAGE

Present arrangements for sewage disposal are quite adequate.

There remain only 44 houses with cesspool or other independent means of drainage, and the construction of new sewers with new development will still further reduce this figure in the coming years.

At present, cesspools are emptied by the Council as frequently as necessary, on request from occupiers.

Number of visits in connection with drainage	110
Houses connected to main drainage	1
Other premises connected to main drainage	-
Houses provided with flushing cisterns .	-
Privies converted to E.Cs.	-
E.Cs. converted to W.Cs.	-
Drains repaired	8

OFFENSIVE TRADES

Number of premises registered (bone boiling and fat extracting)	1
Number of inspections	5

Satisfactory conditions were maintained at these premises, although occasional complaint was received following minor breakdowns in the plant.

PUBLIC HEALTH ACT, 1961Byelaws as to Hairdressers and Barbers

No. of premises	23
No. of inspections	8

NOISE ABATEMENT ACT, 1960

No. of complaints	11
No. of visits	52

These complaints were of a miscellaneous nature and all practicable action was taken without recourse to legal proceedings.

The question as to whether "the best practicable means" to minimise noise have been taken poses difficulties when nuisance arises from night-shift working. In quiet residential areas,

NOISE ABATEMENT ACT, 1960 (Continued)

noise from factories or commercial premises during the night is still objectionable although reduced to a practicable minimum.

Some more direct control over night working would be helpful.

Another difficulty is that those who are annoyed are mostly reluctant to give evidence to this effect.

Continued attention was paid to proposed development from which noise nuisances might arise, consultations being held with developers where considered necessary.

PREVENTION OF DAMAGE BY PESTS ACT, 1949Rodent Control

Number of notifications received	402
Number of infested premises found as a result of survey	20

Owing to the unfortunately prolonged illness of the Department's only operative during the latter part of the year, it was necessary to consider alternative arrangements for the treatments undertaken by the Council. Quotations were obtained from three firms willing to undertake the work on contract, and, in November, Messrs. Rentokil Ltd. were engaged on a temporary basis with the possibility of an annual contract at a later date.

FOOD & DRUGS ACT, 1955Food Hygiene

There was a considerable fall in the number of routine inspections owing to the amount of Smoke Control work in Northgate and because of some time lost as a result of two changes in staff.

The general standard of food premises has, however, remained satisfactory.

One noteworthy innovation on the educational side was the enrolment of all students of the catering course at Crawley College of Further Education for the examination course in Food Hygiene of the Royal Institute of Public Health and Hygiene. Thanks are due to the Principal, Dr. Siklos, and to the Head of the Food & Fashion Department, Mrs. Piggott, for their active appreciation of the advantages of instruction in this essential subject at an early stage in the training of young food-trades workers.

29 out of the 31 entrants were successful in the examination.

Food Complaints

There were 86 complaints, of which 24 concerned mouldy or stale food. Last year's figures were 97 and 35 respectively. One hopes that this is the commencement of a downward trend indicative of better appreciation of the need for efficient stock control.

The number of complaints concerning "foreign bodies" in food rose, however, from 34 to 37. Most of these were attributable to faults in manufacturers' equipment or to accidents. A few resulted from lack of reasonable care.

There were four complaints concerning dirty milk bottles.

Legal proceedings were instituted in four instances, all resulting in convictions, as detailed below:-

Food & Drugs Act, 1955 - Section 2

	<u>Fine</u>	<u>Costs</u>
Fly-blown bacon	£100	£10. 10. Od.
Foreign substance in loaf	£15	£10. 10. Od. (plus £4. 14. Od. analyst fees)
Two dirty bottles of milk	£200	£15. 15. Od. (plus £8. 2. 2d. analyst fees)

POULTRY INSPECTION

There are no poultry processing plants in the district.

EGG PASTEURISATION PLANTS

There are no egg pasteurisation plants in the district.

FOOD PREMISESFood Hygiene (General) Regulations, 1960

Number of inspections	353
Number of notices served	38
Number of notices complied with	7

FOOD PREMISES (Continued)Premises registered under Section 16

For sale of ice cream:-

Grocers and Provision shops	30
Confectioners	27
Bakers' shops	10
Greengrocers	6
Fishmongers	3
Ice Cream Depot/Store	2
Butchers	2
Wine Company	3
Garage premises (vending machine)	1
For the manufacture of sausages, preserved foods etc.:-	
Butchers	24
Grocers	3
Confectioners	2
Fishmongers	10
Bakers' shops	7
Total	<u>130</u>

Number of food premises in the district

Grocers and provision shops	56
Confectioners	27
Greengrocers	27
Butchers	28
Bakehouses	6
Bakers' shops	16
Fishmongers	15
Cafes and Restaurants	26
Licensed premises	25
School/Nursery canteens	34
Factory canteens	56
Offices & shops canteens	12
Old Peoples Homes/Nursing Homes	6
Guest Houses	7
Hostels	1
Clubs etc.	16
Total	<u>358</u>

Number of premises fitted with Wash hand basins
(Regulation 16) 358

FOOD PREMISES (Continued)

Number of premises which are required to install sinks (regulation 19)	332
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Number of such premises fitted with sinks	332
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The Food Hygiene (Markets, Stalls & Delivery Vehicles) Regulations,
1966

Number of inspections	25
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Number of notices served	5
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Number of notices complied with	1
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TABLE OF SAMPLES SUBMITTED FOR ANALYSIS

Article	Number examined			Number adulterated or otherwise irregular		
	Formal	Informal	Total	Formal	Informal	Total
Drugs	-	27	27	-	1	1
Bread/Flour	-	8	8	-	-	-
Butter & margarine	1	5	6	-	3	3
Cordials etc.	-	9	9	-	-	-
Cream & Cream Products	-	5	5	-	-	-
Fresh & Dried Fruits	1	5	6	-	-	-
Ice Cream	-	1	1	-	-	-
Milk & Milk Products	5	22	27	-	3	3
Sausages	-	2	2	-	-	-
Shandy/Beer	-	6	6	-	-	-
Cheese/Cheese Spread	-	9	9	-	-	-
Meat & Meat Products	1	9	10	-	-	-
Sugar Confectionery	-	2	2	-	-	-
Vegetables	-	3	3	-	1	1
Fish - tinned	-	1	1	-	-	-
Beverages	-	2	2	-	-	-
Infant Food	-	1	1	-	1	1
Preserves	1	4	5	-	-	-
Confectionery						
Chocolate	-	1	1	-	-	-
Creamed Potatoes	-	1	1	-	1	1
Other Foods	-	24	24	-	-	-
TOTAL	9	147	156	-	10	10

Food SamplesIrregularities - Food & Drug Sampling

Except for two cases of dirty milk, which were the subject of legal proceedings, the irregularities were of a comparatively minor nature and were dealt with informally.

MILKMilk and Dairies Regulations, 1959/63

Number of dairies registered
(distributing depots) 2
Number of registered purveyors of milk.... 44

The Milk (Special Designation) Regulations, 1963
Dealers' Licences

Pasteurised 43
Sterilised 17
Untreated 1
Ultra Heat Treated 4

Number of notices served under the
regulations -
Number of notices complied with -

Milk SamplesBacteriological examination of milk:

Designation	Samples Taken	Up to Standard	Below Standard (Failed Methylene Blue Test)
U.H.T.	7	7	-
Untreated	1	1	-
Pasteurised	39	36	3
Sterilised	8	8	-
Cream	5	2	3
TOTAL	60	54	6

Milk Samples

Biological examination of milk:

Milk Supplies - Brucella Abortus

- (i) Number of samples of raw milk examined (including cream) - 7
- (ii) Number of positive samples found - 2
- (iii) Action taken in respect of positive samples:-

Cream - Notified authority concerned, who then took action to stop the supply of cream.

Milk - Ring test only positive; follow-up samples taken which proved satisfactory.

ICE CREAM

No. of Samples	Prov. Grade I	Prov. Grade II	Prov. Grade III	Prov. Grade IV
27	8	2	1	16

The high proportion of poor bacterial gradings should again be noted, but, in view of the amount of attention which has previously been given to this subject without achieving any success, I refrain from further comment.

UNFIT FOOD (other than meat at slaughterhouse)

The following articles of food (excluding meat at the slaughterhouse) were examined during the year and certified as unfit for human consumption:-

3760 tins, jars and packets of various foods
 594 lbs. of meat and poultry
 23 stone of fish
 160 lbs. frozen peas (inferior quality)

In addition 1,490 items of frozen foods were dealt with at four local stores following refrigeration breakdowns.

Method of Disposal of Condemned Food

Meat and fish are stained and released, where appropriate, for by-product usage; otherwise the condemned food is buried on the Council's refuse tip.

Methylene Blue Test of Cream

Five samples of cream were submitted for Methylene Blue Test, three of which were unsatisfactory.

SLAUGHTERHOUSES

No horses were killed in the one licensed slaughterhouse during 1968.

Number of visits 6

KNACKERS' YARD

Number of premises licensed. 1

Number of inspections..... 9

The standards maintained at the knackers' yard have remained satisfactory, both as regards general sanitation and as regards the care of animals taken in.

HOUSING

As can be seen from the following tables, very little action has been necessary in respect of unfit houses - as is to be expected.

Continuing efforts were made to encourage the improvement of older houses, and 15 applications were approved.

A considerable amount of attention was given to houses in multiple occupation and 12 new directions were given under Section 19 of the 1961 Act, bringing the total in force at the end of the year up to 62.

Inspection of dwelling-houses during the year:-

Total number of visits for housing defects under Public Health and Housing Acts 108

Housing Act, 19571. Houses demolished in the period - In Clearance Areas

- (a) Houses unfit for human habitation..... -
- (b) Houses included by reason of bad arrangement etc. -
- (c) Houses on land acquired under Sec. 43 -

Not in Clearance Areas

- (a) As a result of formal or informal procedure
Under Sec. 16 or Sec. 17(1) 1

Housing Act 1957 (Continued)

2. Houses closed in the period
 - (a) Under Secs. 16(4), 17(1) and 35(1) -
 - (b) Under Secs. 17(3) and 26 -
 - (c) Parts of building closed under Sec. 18 -

3. Unfit houses in temporary use
 - (a) Retained for temporary accommodation
 - (1) Under Sec. 48 -
 - (2) Under Sec. 17(2) -
 - (3) Under Sec. 46 -
 - (b) Licensed for temporary occupation under
Secs. 34 and 53 -

4. Houses Let-in-Lodgings
 - (a) Formal notices served under Sec. 90 -
 - (b) Formal notices complied with -

5. Overcrowding - Part IV, Housing Act, 1957
 - (a) 1. Number of dwellings overcrowded at end of year -
 2. Number of families dwelling therein -
 3. Number of persons dwelling therein -
 - (b) Number of cases of overcrowding reported
during the year -
 - (c) Number of cases of overcrowding relieved
during the year -
 - (d) Number of formal notices to abate overcrowding -
 - (e) Number of formal notices complied with -
 - (f) Number of informal notices to abate overcrowding -
 - (g) Number of informal notices complied with -

6. Unfit houses made fit and houses in which defects were remedied
 Unfit houses rendered fit and houses in which defects were remedied during the period as a result of informal action by the local authority under the Housing and Public Health Acts 6
 - (a) After formal action under Public Health Act:
 1. By owners 4
 2. By local authority in default of owners -
 - (b) After formal action under Secs. 9 and 16,
Housing Act, 1957:
 1. By owners -
 2. By local authority in default of owners -
 - (c) Under Sec. 24 Housing Act, 1957 -

Housing (Continued)Housing Act, 1961 (Part II)

No. of inspections (Secs. 15 & 16)	285
No. of directions given (Sec. 19)	12

Housing (Financial Provisions) Act, 1958House Purchase and Housing Act, 1959

Number of discretionary improvement grants	-
Number of standard improvement grants	16

Rent Act, 1957 - Certificates of Disrepair

Number of Form G received	-
Number of Undertakings accepted	-
Number of Certificates issued	-
Number of Certificates cancelled	-
Number of Undertakings complied with	-

SECTION 60, PUBLIC HEALTH ACT, 1936 - Means of Escape from Fire in the case of Certain High Buildings

Number of inspections	3
Number of notices served:-	
Formal	-
Informal	2
Number of notices complied with:-	
Formal	-
Informal	-

CLEAN AIR ACT, 1956Smoke Control Orders

Although the Order for Northgate confirmed in August, 1968, will not come into operation until October, 1969, a high proportion of the work of the Department consisted of the approval, supervision and certification of works of adaptation. This was due to this being the first Order authorising conversions in Commission houses to the "higher standard", of which a good many tenants have availed themselves.

The work involved has been considerably more complex than heretofore and the decision to delay the operation of the Order until October, 1969, has proved its worth.

CLEAN AIR ACT, 1956 (Continued)Industrial Plant

I have reported in previous years on emissions of smoke from a wood-burning incinerator at one of the factories on the Industrial Estate, which occurred in spite of sustained efforts at prevention. However, following further representations to the occupiers during the year, arrangements were made to dispose of the wood-waste elsewhere and to instal an oil-fired boiler for the space-heating service previously obtained from the incinerator.

The co-operation of the firm is appreciated.

OFFICES, SHOPS AND RAILWAY PREMISES ACT, 1963

Total No. of premises registered at end of year.... 630

No. of employees in registered premises -

Male:	3020
Female:	4044
	<hr/>
Total:	7064
	<hr/> <hr/>

No. of visits 255

No. of premises receiving a general inspection
during the year 197

No. of accidents reported 26

Details of inspections and action taken under this Act are the subject of a separate return to the Ministry, a copy of which is available for inspection by any interested persons.

Only a few infringements were noted and these were all of a minor nature.

Twenty-six accidents were reported during the year, none of which can be attributed to structural defects or to insufficiently guarded machinery, and all but three were of a comparatively minor nature - bruises, cuts and strains etc.

The remaining three (all due to slipping) were two broken bones in foot; injury to Coccyx; fractured wrist.

Where the standard of lighting was found to be below that recommended in the I.E.S. code, little difficulty was experienced in persuading occupiers to improve lighting up to this standard.

FACTORIES ACT, 1961

(1) Inspections for purposes of provision as to health.

Premises (1)	No. on Register (2)	Number of		
		Inspections (3)	Written Notices (4)	Occupiers Prosecuted (5)
(i) Factories in which Secs. 1,2,3,4 & 6 are to be enforced by local authority	2	1	1	-
(ii) Factories not included in (i) in which Sec. 7 is enforced by local authority	213	21	6	-
(iii) Other premises in which Sec. 7 is enforced by local authority (excluding outworkers' premises)	52	40	1	-
TOTAL	267	62	8	-

FACTORIES ACT, 1961 (Continued)

(2) Cases in which defects were found.

Particulars (1)	Number of cases in which defects were found				No. of cases in which prosecutions were instituted (6)
	Found (2)	Remedied (3)	Referred		
			To H.M. Inspector (4)	By H.M. Inspector (5)	
Want of cleanliness (S.1)	1	1	-	-	-
Overcrowding (S.2)	-	-	-	-	-
Unreasonable temperature (S.3)	-	-	-	-	-
Inadequate ventilation (S.4)	-	-	-	-	-
Ineffective drainage of floors(S.6)	-	-	-	-	-
Sanitary Conveniences (S.7)					
(a) Insufficient	1	1	-	-	-
(b) Unsuitable or defective	1	1	-	-	-
(c) Not separate for sexes	-	-	-	-	-
Other offences against the Act (not including offences relating to outwork)	-	-	-	-	-
TOTAL	3	3	-	-	-

Outwork - Sections 133 and 134

Nature of Work (1)	Section 133			Section 134		
	No. of out-workers in Aug. list required by S.133 (1)(c)(2) (2)	No. of cases of default in sending lists to the Council (3)	No. of prosecutions for failure to supply lists (4)	No. of instances of work in un-wholesome premises (5)	Notices served (6)	Prosecutions (7)
Wearing Apparel (making)	10	-	-	-	-	-
Lampshades	26	-	-	-	-	-
Costume Jewellery	168	-	-	-	-	-
TOTAL	204	-	-	-	-	-

HOME SAFETYHeating Appliances (Fireguards) Act, 1952Consumer Protection Act, 1961Fabrics (Misdescription) Act, 1913Fabrics (Misdescription) Regulations, 1959

A general watch has been kept on the heating appliances being sold in the district. Most appliances now bear reference to the appropriate British Standard and it was not considered necessary to test any appliance.

No occasion arose for submitting fabrics for testing.

Oil Heaters Regulations, 1962

All oil heaters seen to be on sale in the district were noted to be bearing the appropriate British Standard Certification mark.

Local Home Safety Committee

Although this is a voluntary organisation, its formation in 1960 was sponsored by the Council and relies on a Council grant for its support. The Medical Officer of Health, my Deputy and I continue to serve on the Committee.

The main activity of the year was the participation in the combined Road, Home & Industrial Safety Exhibition held in the Civic Hall. Except for the specially organised school parties, attendance at this new venue was disappointing. The ready accessibility of a marquee in the Town Centre, which was chosen for all previous exhibitions, has obvious advantages in being its own advertisement and in not requiring a special journey.

PETROLEUM (CONSOLIDATION) ACT, 1928

Number of licences issued.....	81
Number of inspections	244
Number of disused installations made safe	3

A spillage of petrol occurred at a filling-station in December, as a result of inadequate precautions in respect of off-set filling points and failure to comply with regulations controlling petrol deliveries.

Legal proceedings resulted in the conviction of the company, the forecourt attendant and the tanker driver. Fines totalled £150, plus 25 guineas costs.

SHOPS ACT, 1950

Total inspections for all purposes....	119
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PET ANIMALS ACT, 1951

Number of premises licensed	5
Number of inspections	11

ANIMAL BOARDING ESTABLISHMENTS ACT, 1963

No. of applications for licences received...	2
No. of licences issued	2
No. of visits	3

RIDING ESTABLISHMENTS ACT, 1964

No. of applications for licences received	1
No. of licences issued	1
No. of visits	1

COURSES OF INSTRUCTION ATTENDED

G.A. FAULKNER Deputy Chief Public Health Inspector	One-day course on swimming pools (organised by S.E. Provisional Council)
L.P. POOLE Senior District Inspector	"
D.W. TOWNSEND District Inspector	"
A.F. SCREETON District Inspector	C.U.C. Approved Appliance Installers course (Smoke Control), Crawley College of Further Education.
L.P. POOLE D.W. TOWNSEND A.F. SCREETON	Week-end Seminar, Hastings The Association of Public Health Inspectors.

The scope of the Public Health Inspectors' duties is continually widening and technical advancements have been particularly rapid in recent years. Constant post-qualification study is essential and the Council's ready appreciation of this point is welcomed.

APPENDIX A

GENERAL PROVISION OF HEALTH SERVICES IN THE AREA

1. Laboratory Facilities

Routine bacteriological work is carried out at the Brighton Public Health Laboratory. Routine samples of water, milk and ice-cream are submitted, together with many other types of specimens. Arrangements have been made for the despatch to the laboratory by the Public Health Department of any specimens which general practitioners may wish to send for examination.

We are indebted to Dr. J.E. Jameson, the Director of the Laboratory, for his assistance and advice on many occasions.

2. Ambulance Service

The ambulance service is administered by the County Council. Six ambulance vehicles were in use, and the staff increased to twelve Driver/Attendants. During 1968 the Crawley ambulances covered 111,249 miles and conveyed 17,335 patients.

3. Hospital Accommodation for Infectious Disease

The majority of cases of infectious disease in need of hospital treatment are normally admitted to Foredown I.D.H. at Hove, although the number sent in during 1968 was small. I must express my appreciation of the helpful co-operation of the Medical Superintendent.

We are advised that any cases of Smallpox occurring in the District should be sent to the River Hospital (Long Reach), Dartford, Kent.

4. Clinics and Treatment Centres

A. By Local Health Authority

The following is an account of the Services provided in the area by the West Sussex County Council as Local Health Authority.

(a) Nursing: The West Sussex County Council employs District Nurses, Midwives, Health Visitors and School Nurses. In Crawley the Health Visitors act as School Nurses, but District Nurses and Midwives operate separately.

(b) Maternity and Child Welfare: Infant Welfare Clinics are held as follows:-

Health Clinic, Exchange Road, Crawley. Sessions are held each Tuesday from 2 p.m., a doctor being in attendance.

Langley Green Clinic. Sessions are held each Wednesday from 2 p.m., a doctor being in attendance.

Jubilee Hall, Three Bridges. Sessions are held twice weekly (Monday and Thursday) from 2 p.m. A doctor is in attendance on the first, third and fifth Mondays and also on the second and fourth Thursdays in the month.

Bishop Bell Clinic, Tilgate. Sessions are held on Mondays and Fridays from 2 - 4 p.m., a doctor being in attendance on the second and fourth Monday, and also on the first, third and fifth Friday in the month.

Ifield Community Hut. Sessions are held on the second Friday each month, from 2 - 4 p.m., a doctor being in attendance.

Southgate Community Hut. Sessions are held each Thursday from 2 - 4 p.m., a doctor being in attendance on the third Thursday in the month.

Gossops Green Clinic (at Gossops Green School). Sessions are held weekly on Wednesdays from 10 a.m., a doctor being in attendance.

Family Planning Clinic. Family Planning Clinics are held at:-

Health Clinic, Exchange Road, Crawley, at 7 p.m., to 9 p.m. on Mondays and 1.45 p.m. to 3.45 p.m. on Fridays, and for Oral Contraception only on Thursdays from 6.45 p.m.

Bishop Bell Clinic, Tilgate, on Mondays, 9.45 a.m. to 11.45 a.m. and on the first and third Thursdays from 9.45 a.m. to 11.45 a.m.

Relaxation Classes

Health Clinic, Exchange Road. Classes are held weekly on Mondays at 2 p.m.

(c) School Health Service. Regular inspections of children are carried out at all schools by the District M.O.H. and other School Medical Officers in the service of the County Council.

Two Dental Surgeons operate in Crawley. Regular sessions are held at the Crawley Health Clinic and Langley Green Clinic.

Eye, Orthopaedic, Child Guidance, Physiotherapy and Speech Clinics are held in the town.

Sessions for immunisations are held at the Crawley Health Clinic, and at the Clinics in Three Bridges, Tilgate, Gossops Green, Southgate, Langley Green and Ifield.

(d) Home Help Service. The County Council provides a directly-administered Home Help Service. All enquiries should be addressed to the Area Home Help Organiser, 32-40, North Street, Horsham.

B. Other Facilities

(i) Hospital and Specialist Services. A comprehensive hospital and specialist service is provided by the Regional Hospital Board. Hospital accommodation of a private nature is available in certain circumstances, subject to appropriate charges.

(ii) General Medical and Dental Services. Everyone is entitled, as part of the arrangements of the National Health Service, to general medical and dental care. Local arrangements for these services are organised through the National Health Executive Council for West Sussex, 175, Broyle Road, Chichester.

(iii) Crawley Chest Clinic. Patients who are referred to the Consultant Chest Physician are seen at the Clinic in Crawley Hospital, where sessions are held on Wednesday mornings.

(iv) Venereal Diseases. Patients may attend the Clinic at the Redhill General Hospital or at the Royal Sussex County Hospital, Brighton. Treatment is confidential and times are as follows:-

Redhill General Hospital

Men - Mondays 5 p.m. to 7 p.m.

Royal Sussex County Hospital

Men - Mondays 2 - 3 p.m. and 4 - 7 p.m.
Wednesdays 9.30 a.m. - 1 p.m.
Thursdays 2 - 5 p.m.

Women - Tuesdays 4 - 7 p.m.
Thursdays 10 a.m. - 1 p.m.

Men and Women - Fridays 11 a.m. to 12 noon (by appointment only)

Sessions for women are also held at the Croydon General Hospital on Mondays 2 - 6.30 p.m., Wednesdays 10.30 a.m. - 12.30 p.m. and Thursdays 4.30 - 6.30 p.m.

(1)

APPENDIX B

WATER EXAMINATION

I am indebted to the Chief Engineer to the North West Sussex Water Board, for information regarding the examination of water at source. All examinations are carried out by Mr. T.B. Wood, B.Sc., A.M. Inst. F., Chief Chemist and Bacteriologist to the Board. The following comments are made:-

- (a) Quality of water - satisfactory
Quantity of water - adequate
- (b) Bacteriological and chemical analyses are shown in the following tables.
- (c) Samples have been taken from different supplies within the Board's area to examine for plumbo-solvency. No evidence of this was apparent.
- (d) No contamination problems have been experienced. All samples which were found to be below the expected standard were satisfactory upon re-test.
- (e) No dwellinghouses are supplied by means of standpipes. Mains water is supplied to all 19,255 dwellings.

Bacteriological Examinations

Type	Source	No. of Samples	% Free from Coliform Type	% Free from E. Coli
Raw Water	Hardham River Intake	52	NIL	NIL
	" B/H 2	50	100	100
	" B/H 3	69	100	100
	" B/H 4	19	100	100
	" B/H 5	65	100	100
	" B/H 6	62	96.8	100
	Combined B/H Inlet	50	100	100
	Weir Wood	46	15.2	28.3
Final Water	Hardham	291	100	100
	Weir Wood	130	99.2	99.2
	Service Reservoirs	529	96.4	98.4
	Kiosks	437	97.0	99.6
	Distribution	528	98.1	99.4
	New Mains	240	66.3	94.2

FINAL WATERS 1968/69

No. of Samples	SOURCE					
	HARDHAM			WEIR WOOD		
	102			76		
	Av.	Max.	Min.	Av.	Max.	Min.
Temp. °C	11.5	15.6	8.7	11.3	19.5	3.5
Colour	<5	<5	<5	<5	<5	<5
pH	7.91	9.00	7.00	8.20	9.50	7.20
Electrical Conductivity	265	320	218	274	320	235
Total Dissolved Solids ppm	182	244	132	179	228	135
Total Hardness ppm	108	153	79	109	126	87
Temporary Hardness ppm	69	126	45	51	60	31
Chlorides ppm	26	29	21	28	32	24
Free Carbon Dioxide ppm	2.2	11.0	NIL	1.0	9.5	NIL
Iron ppm	0.02	0.10	<0.01	0.02	0.14	<0.01
Manganese ppm	<0.01	0.03	<0.01	<0.01	<0.01	<0.01
Aluminium ppm	<0.02	0.10	<0.02	0.03	0.12	<0.02
Fluorides ppm	0.05	0.14	<0.01	0.07	0.14	<0.01
Residual Chlorine ppm	0.24	0.40	<0.05	0.30	1.40	0.10

(4)

RAW WATERS 1968/69

No. of Samples	Source																							
	HARDHAM RIVER INTAKE			HARDHAM NO. 2 BOREHOLE			HARDHAM NO. 3 BOREHOLE			HARDHAM NO. 4 BOREHOLE			HARDHAM NO. 5 BOREHOLE			HARDHAM NO. 6 BOREHOLE			HARDHAM COMBINED B/H INLET			WEIR WOOD		
	52			76			210			19			79			80			38			39		
	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.
Temp.°C	10.1	17.4	2.3	11.2	11.3	11.2	11.0	11.2	11.0	11.5	11.7	11.4	11.6	11.7	11.5	11.6	11.6	11.5	11.4	11.7	11.0	10.8	19.4	2.4
Colour	31	90	<5	<5	<5	<5	<5	<5	<5	5	15	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	19	110	5
pH	7.94	8.30	7.30	6.22	6.65	5.85	6.72	7.15	6.30	5.58	6.20	5.30	5.66	6.00	5.40	5.15	6.40	4.85	6.07	6.35	5.90	7.86	9.25	7.25
Electrical Conductivity	346	405	225	228	255	210	237	258	225	142	160	98	75	77	72	124	136	115	149	158	134	231	255	178
Total Dissolved Solids ppm	248	300	185	139	145	129	161	176	146	104	126	72	47	54	35	82	93	74	99	115	64	158	183	117
Suspended Solids ppm	35	361	1	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	NIL	8	162	1
Total Hardness ppm	154	190	85	80	89	71	86	100	79	37	44	22	13	17	10	28	34	24	44	51	36	88	98	64
Temporary Hardness ppm	119	150	54	26	29	23	43	56	37	9	17	7	7	10	5	6	11	3	17	23	12	57	59	42
Chlorides ppm	25	28	18	26	28	24	26	29	20	23	26	22	20	22	17	25	32	23	23	25	20	23	30	19
Free Carbon Dioxide ppm	1.9	8.0	NIL	29.8	48.5	11.0	21.1	38.5	5.0	28.4	39.0	18.0	13.7	19.0	7.0	25.4	36.0	7.0	24.8	32.0	12.0	1.7	4.5	NIL
Iron ppm	0.65	2.00	0.19	0.04	0.08	0.02	0.03	0.06	0.01	0.09	0.22	0.02	0.04	0.06	<0.01	0.02	0.04	0.01	0.02	0.10	<0.01	0.24	1.20	0.04
Manganese ppm	0.05	0.30	<0.01	0.02	0.04	<0.01	<0.01	0.01	<0.01	0.03	0.06	<0.01	<0.01	<0.01	<0.01	0.09	0.23	<0.01	0.03	0.07	<0.01	0.16	0.76	<0.01
Aluminium ppm	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	0.02	<0.02	<0.02	0.02	<0.02
Fluorides ppm	0.09	0.14	0.04	0.04	0.07	<0.01	0.02	0.05	<0.01	0.01	0.03	<0.01	0.02	0.04	<0.01	0.03	0.05	<0.01	0.06	0.07	0.06	0.08	0.16	<0.01

